

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 131703

131703

Page 2

Tuesday, April 21, 2015 1:47:08 PM

Item ID: D5955 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle
 Start Date: 4/20/15 Start Qty: 4.00 *4* Cust Item ID:
 Required Date: 4/20/15 Req'd Qty: 4.00 *4* Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00				4		15-9-1	
130	HandFinish	0.00							
Hand Finishing	Memo								
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00				4		15-9-1	DAS 34 9-89
140	Powdercoat	0.00							
Powder Coating	Memo								
	START TIME: 3:25								
	FINISH TIME: 3:35								
150	QC3- Inspect Part Finish	0.00							
150	QC	0.00							
Quality Control	Memo								

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
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								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			

Work Order ID 131703

131703

Page 3

Tuesday, April 21, 2015 1:47:08 PM

Item ID: D5955 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle
 Start Date: 4/20/15 Start Qty: 4.00 *4* Cust Item ID:
 Required Date: 4/20/15 Req'd Qty: 4.00 *4* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>ST39A</u>	0.00							
160									
Packaging	Memo	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.00							
Quality Control									

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

Tuesday, April 21, 2015 1:47:08 PM

Page 1

Work Order ID: 131703

131703

Parent Item: D5955

D5955

Parent Item Name: Saddle

Start Date: 4/20/15

Required Date: 4/20/15

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:E Re-Format 05-11-29 JLM
IPP Rev:F ecn826 06.12.06 ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-013		Manufactured	No			100	Each	6.0000	1	4			
-----------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D6101-013

Saddle Billet

DAS
44
9-89

15/09/22.

Location

Loc Qty

Loc Code

MAT044

6

124221

6

132502

→ 4

DQA: _____ Date: _____



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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
Misidentified ☐	Past Due ☐																								

DART AEROSPACE LTD		Work Order:	131703
Description: Outer Aft Saddle		Part Number:	D5955
Inspection Dwg: D5955	Rev: B	Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		.438	.438	.438	.438		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	5.245	5.255		5.250	5.250	5.250	5.250		
D	6.995	7.005		7.000	7.000	7.000	7.000		
E	5.240	5.260		5.250	5.250	5.250	5.250		
F	4.745	4.755		4.750	4.750	4.750	4.750		
G	0.315	0.322		.316	.316	.316	.316		
H	1.522	1.532		1.527	1.527	1.527	1.527		
I	3.048	3.058		3.053	3.053	3.053	3.053		
J	4.575	4.585		4.580	4.580	4.580	4.580		
K	0.315	0.322		.316	.316	.316	.316		
L	0.495	0.505		.500	.500	.500	.500		
M	0.490	0.510		.498	.497	.497	.497		
N	1.865	1.885		1.875	1.875	1.875	1.875		
O	7.990	8.010		8.000	8.000	8.000	8.000		
P	2.240	2.260		2.250	2.250	2.250	2.250		
Q	0.307	0.312		.312	.311	.311	.311		
R	0.760	0.765		.760	.760	.760	.760		
S	0.490	0.510		.492	.499	.499	.500		
T	1.625	1.645		1.625	1.625	1.625	1.625		
U	2.000	2.020		2.006	2.0048	2.004	2.003		
V	0.023	0.043		.033	.033	.033	.033		
W									
X									
Y									
Z									
AA									
AB									
AC									
AD									
AE									
AF									
Accept/Reject									

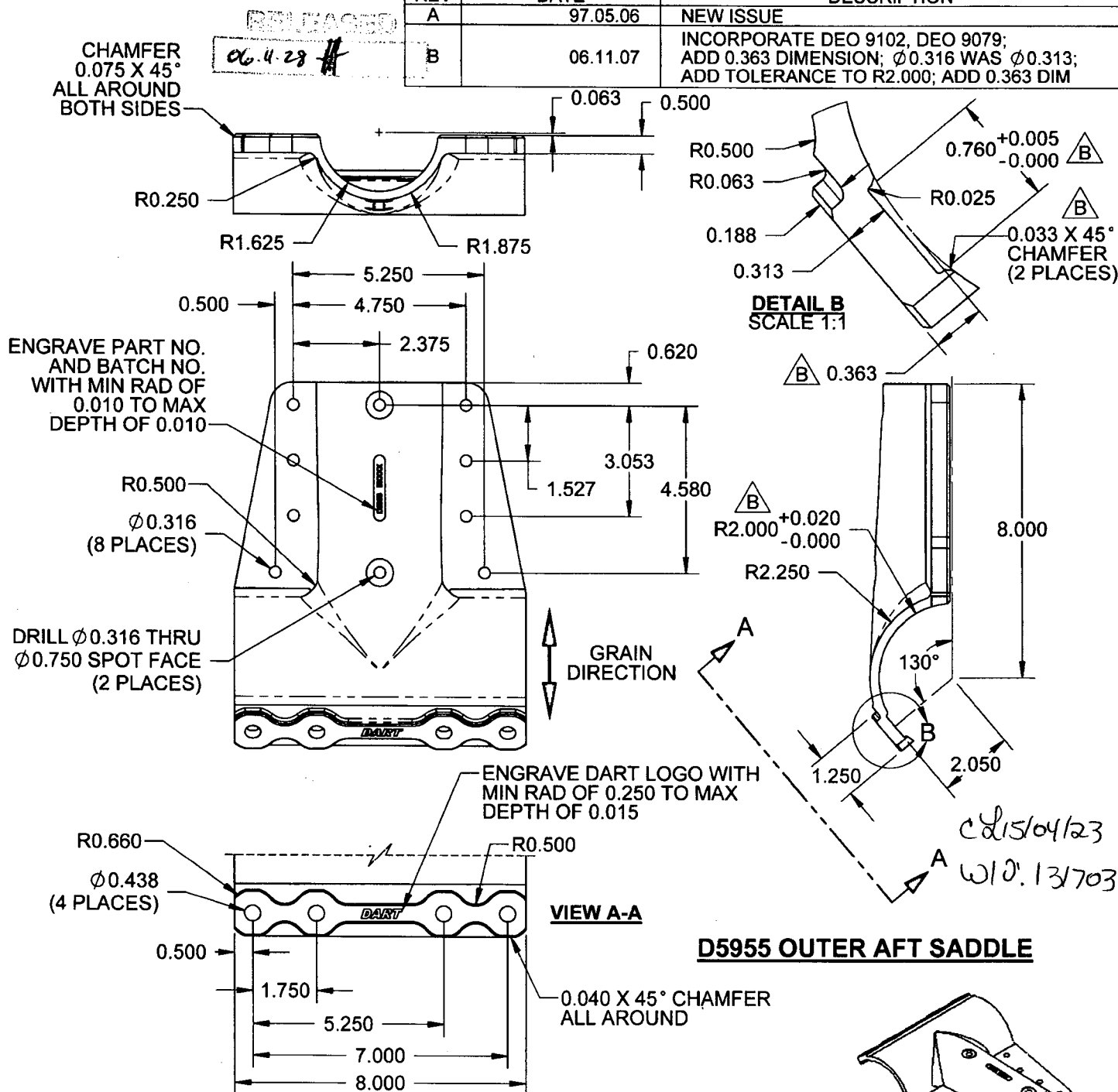
Measured by:	DAS 20
Date:	9-89 15-06-23

Audited by:	DAS
Date:	08 15/06/29 9-89

Rev	Date	Change	Revised by	Approved
A	99.04.19	New Issue	RF	
B	02.12.13	Reformat; Added Dim. T-U & DT8682, DT8686	KJ/RF	
C	06.11.20	Added dimension V	KJ/JLM	
D	06.12.06	Dimensions L,N,P revised	KJ/EC	
E	07.06.15	Dimension G revised	KJ/JLM	
F	08.04.21	Dimension E revised	KJ/DD	
G	08.08.05	Dimension K revised	KJ/DD	



DESIGN BW	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED LE	APPROVED [Signature]	DRAWING NO. D5955
DATE 06.11.07	TITLE OUTER AFT SADDLE	REV. B SHEET 1 OF 1 SCALE 1:4
REV A	DATE 97.05.06	DESCRIPTION NEW ISSUE
B	06.11.07	INCORPORATE DEO 9102, DEO 9079; ADD 0.363 DIMENSION; $\phi 0.316$ WAS $\phi 0.313$; ADD TOLERANCE TO R2.000; ADD 0.363 DIM



NOTES:

- 1) MATERIAL: ALUMINUM 7075-T7351 PER QQ-A-250/12
(MAKE FROM D6101-013 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3 **B**
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.010 TO 0.020

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Part Number: D5955	Rev: B	- Page 1 -
Description: OUTER AFT SADDLE	Inspection Dwg: D5955	Work Order: 131703

Item Ref.	Nominal	Tolerance	No. Piece_1 Actual	No. Piece_2 Actual	No. Piece_3 Actual	No. Piece_4 Actual	
D1	0.075	+0.010/-0.010	0.070	0.072	0.071	0.073	
D2	0.250	+0.010/-0.010	0.250	0.250	0.250	0.250	
3	1.625	+0.020/0.000	1.626	1.626	1.626	1.626	
D4	1.875	+0.010/-0.010	1.875	1.873	1.875	1.875	
5	0.063	+0.010/-0.010	0.056	0.054	0.056	0.058	
6	0.500	+0.010/-0.010	0.499	0.501	0.500	0.500	
7	0.188	+0.010/-0.010	0.185	0.185	0.185	0.185	
D8	0.313	+0.000/-0.005	0.310	0.310	0.310	0.310	
9	0.363	+0.010/-0.010	0.373	0.360	0.371	0.373	
D10	0.033	+0.010/-0.010	0.035	0.030	0.030	0.030	
D11	0.760	+0.005/0.000	0.760	0.760	0.760	0.760	
12	0.063	+0.010/-0.010	0.062	0.059	0.061	0.062	
13	8.000	+0.010/-0.010	7.999	8.000	7.999	8.000	
14	2.050	+0.010/-0.010	2.060	2.047	2.059	2.060	
Ang15	130.000	+0.500/-0.500	130.349	130.400	130.379	130.319	
D16	1.250	+0.010/-0.010	1.256	1.257	1.256	1.258	
17	2.000	+0.020/0.000	2.000	2.000	2.000	2.000	
D18	2.250	+0.010/-0.010	2.250	2.246	2.250	2.250	
19	0.500	+0.005/-0.005	0.500	0.500	0.500	0.500	
20	5.250	+0.005/-0.005	5.247	5.247	5.246	5.247	
21	4.750	+0.005/-0.005	4.747	4.746	4.747	4.747	
22	2.375	+0.005/-0.005	2.372	2.375	2.375	2.375	
23	0.625	+0.010/-0.010	0.624	0.624	0.625	0.625	
24	1.527	+0.005/-0.005	1.527	1.527	1.527	1.526	
25	3.053	+0.005/-0.005	3.054	3.053	3.054	3.052	
26	4.580	+0.005/-0.005	4.581	4.581	4.580	4.580	
27	0.316	+0.005/0.000	0.316	0.316	0.316	0.316	
D28	0.750	+0.010/-0.010	0.750	0.750	0.750	0.750	
29	0.316	+0.005/0.000	0.316	0.317	0.316	0.316	
30	0.438	+0.005/0.000	0.438	0.438	0.438	0.438	
31	0.500	+0.010/-0.010	0.503	0.495	0.502	0.504	

Measured by:
Mathieu Lamarche

Date:
2015-8-31

Audited by:

DAS
08
9-99

Date:

15/06/29



Part Number: D5955	Rev: B	- Page 2 -
Description: OUTER AFT SADDLE	Inspection Dwg: D5955	Work Order: 131703

Item Ref.	Nominal	Tolerance	No. Piece_1 Actual	No. Piece_2 Actual	No. Piece_3 Actual	No. Piece_4 Actual	
32	1.750	+0.005/-0.005	1.751	1.751	1.751	1.751	
33	5.250	+0.005/-0.005	5.250	5.250	5.251	5.251	
34	7.000	+0.005/-0.005	6.999	6.998	7.000	7.000	
35	8.000	+0.010/-0.010	8.001	8.001	8.001	8.001	
D36	0.040	+0.010/-0.010	0.040	0.042	0.044	0.043	

Measured by:
Mathieu Lamarche

Date:
2015-8-31

Audited by: *L.D.* **DAS**
08
9-89

Date: 15/06/29